

E, F, G, H, let perpendiculars  $A\alpha$ ,  $B\beta$ , &c. be erected, by whose intervals the extent of the several Colours set underneath against them, is to be represented. Then divide the line  $A\alpha$  in such proportion as the numbers 1, 2, 3, 5, 6, 7, 9, 10, 11, &c. set at the points of division denote. And through those divisions from Y draw lines 1 I, 2 K, 3 L, 5 M, 6 N, 7 O, &c.

Now if  $A\alpha$  be supposed to represent the thickness of any thin transparent Body, at which the outmost violet is most copiously reflected in the first Ring, or Series of Colours, then by the 13th Observation H K, will represent its thickness, at which the utmost red is most copiously reflected in the same Series. Also by the 5th and 16th Observations,  $A\beta$  and H N will denote the thicknesses at which those extreme Colours are most copiously reflected in the second Series, and  $A\gamma$  and H Q the thicknesses, at which they are most copiously reflected in the third Series, and so on. And the thickness at which any of the intermediate Colours are reflected most copiously, will, according to the 14th Observation, be defined by the distance of the line A H from the intermediate parts of the lines 2 K, 6 N, 10 Q, &c. against which the names of those Colours are written below.

But further, to define the latitude of these Colours in each Ring or Series, let A 1 design the least thickness, and A 3 the greatest thickness, at which the extreme violet in the first Series is reflected, and let H I, and H L, design the like limits for the extreme red, and let the intermediate Colours be limited by the intermediate parts of the lines 1 I, and 3 L, against which the names of those Colours are written, and so on: But yet

yet with this caution, that the reflections be supposed strongest at the intermediate Spaces, 2 K, 6 N, 10 Q, &c. and from thence to decrease gradually towards these limits, 1 I, 3 L, 5 M, 7 O, &c. on either side; where you must not conceive them to be precisely limited, but to decay indefinitely. And whereas I have assigned the same latitude to every Series, I did it, because although the Colours in the first Series seem to be a little broader than the rest, by reason of a stronger reflexion there, yet that inequality is so insensible as scarcely to be determined by Observation.

Now according to this description, conceiving that the rays originally of several Colours are by turns reflected at the Spaces 1 I L 3, 5 M O 7, 9 P R 11, &c. and transmitted at the Spaces A H I 1, 3 L M 5, 7 O P 9, &c. it is easy to know what Colour must in the open Air be exhibited at any thickness of a transparent thin body. For if a Ruler be applied parallel to A H, at that distance from it by which the thickness of the body is represented, the alternate Spaces 1 I L 3, 5 M O 7, &c. which it crosseth will denote the reflected original Colours, of which the Colour exhibited in the open Air is compounded. Thus if the constitution of the green in the third Series of Colours be desired, apply the Ruler as you see at  $\pi$   $\epsilon$   $\sigma$   $\phi$ , and by its passing through some of the blue at  $\pi$  and yellow at  $\sigma$ , as well as through the green at  $\epsilon$ , you may conclude that the green exhibited at that thickness of the body is principally constituted of original green, but not without a mixture of some blue and yellow.

Ff

By